‘Thinking about malaria’

Research task - TEACHER Information

(adapted from [www.thercs.org/youth-](http://www.thercs.org/youth-) Royal Commonwealth Society)

**Themes to Explore:**

* What is malaria?
* Why is it a major development issue?
* What are some of the barriers to approaching the issue?

The incidence of malaria is on the rise. Around 311 million new infections and 900,000 deaths occur worldwide every year. Australia is free of endemic malaria, but Australians can catch the disease when travelling to tropical regions in Asia, Africa, and Central or South America. Most Australian cases of malaria are contracted in Papua New Guinea, East Timor and Indonesia.

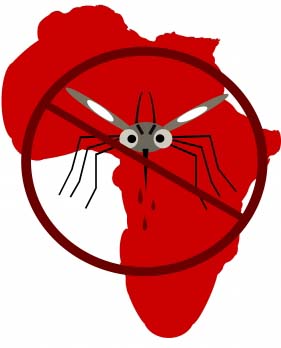
**Pre-Research Activities:**

* As an introductory lesson to identify the prior knowledge of students on malaria, complete the brainstorm activity:
  + Brainstorm Activity:
    - Materials: large pieces of paper (butcher’s paper), marker pens
    - Split the group into four teams. The aim is for each team to write down as many words and phrases related to ‘malaria’ as possible.
    - Give them 10 mins
    - Discuss common themes and ideas as a class – was there anything surprising that the group didn’t know about malaria?
* Refer to Chapter 4.9 p165 in the textbook. Discuss what malaria is, how it is transmitted, what symptoms there are, where in the world etc… For the research task there is a fact sheet attached, so you may just want to refer to that.

**Research Task:**

* Each student will require (attached):
  + Task Sheet and Malaria Prevention Case Study
  + Malaria fact sheets (x2)
  + Assessment Rubric
  + Using the information provided and their own knowledge, students will need to create a campaign to raise awareness of malaria and bed nets as a method of prevention. The campaign may be:
    - A TV or radio advert
    - A drama
    - A song, poem or rap
    - A poster or series of posters
    - Or any other creative form which you think is appropriate

Try to encourage the use of technology when presenting their information.

‘Thinking about malaria’

Research task

Using the information included below ‘Malaria Prevention Case Study: Insecticide-Treated Mosquito Nets’, the ‘Malaria Fact Sheets’, your textbook and your own knowledge, create a campaign to raise awareness of malaria and bed nets as a method of prevention.

**Your campaign may be:**

* + - **A TV or radio advert**
    - **A drama**
    - **A song, poem or rap**
    - **A poster or series of posters**
    - **Or any other creative form which you think is appropriate! (see your teacher)**

Refer to the Assessment Rubric for key indicators for assessment – the use of technology to present your advert and creativity will be key areas that will be assessed.

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**Malaria prevention case study: insecticide-treated mosquito nets**

One of the best ways of preventing malaria is through the use of insecticide-treated mosquito nets. These nets are used over beds, to prevent mosquitoes from reaching those sleeping underneath.

*Anopheles* mosquitoes, which carry malaria, usually bite at night. Evidence has shown that use of bed nets can reduce the incidence of malaria by half or more.

However, there are some issues that reduce the effectiveness of bed nets as a means of prevention:

* **Expense** – an insecticide-treated bed net costs around $5. For those on a low income (the World Bank estimates that 1.22 billion people lived on less than $1.25 a day in 2010), it may not appear to be a worthwhile investment. However, one bed net can be used by more than one person (e.g. a mother and child or a number of brothers and sisters), and once the net has been bought, there should be no further costs until it needs to be replaced
* **Education** – for bed nets to be fully effectiveness, they must be used properly. However, often nets are distributed without education.
* Nets must cover beds fully and be tucked in
* Any mosquitoes inside the net must be removed before sleeping
* Any tears or holes should be repaired, or the net replaced
* Nets should be washed carefully, so that the insecticide is not washed out
* Nets should be retreated with insecticide (depending on the type of net, either every few months or every few years)
* **Awareness** – the benefits of using mosquito nets to prevent malaria are sometimes not fully understood, and other concerns may put people off from using them. For example:
  + Nets restrict airflow, and in tropical countries this may make it uncomfortable to sleep under than as it is hotter than sleeping without a net
  + People may not understand that young children are amongst those highest at risk of severe illness from malaria, and if they only have one net available for the whole family, may not know how important it is that young children are able sleep under a net

**Thinking about Malaria – fact sheets**

**Key Facts:**

In 2008, malaria caused nearly one million deaths, mostly among African children.

Malaria is preventable and curable.

In 2008, there were 247 million cases of malaria world-wide (that were reported).

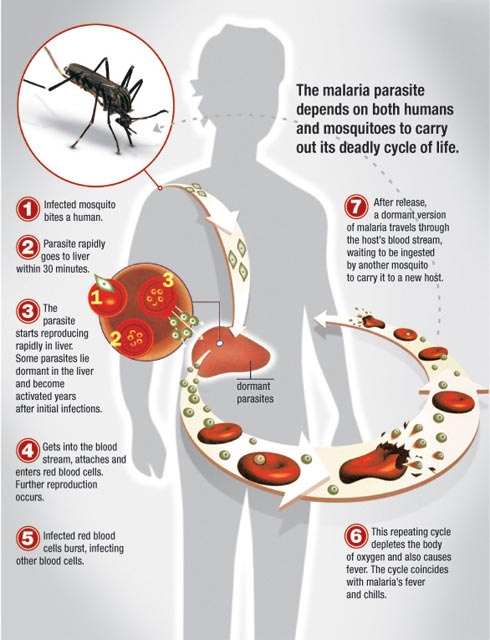
Malaria can decrease gross domestic product by as much as 1.3% in countries with high disease rates.

In Africa, a child dies every 45 seconds of malaria – the disease accounts for 20% of all childhood deaths.

More than 85% of the world’s malaria deaths are in Africa.

Malaria is caused by *Plasmodium* parasites. The parasites are spread to people through the bites of infected *Anopheles* mosquitoes called “malaria vectors”, which bite mainly between dusk and dawn.

*Anopheles* mosquitoes breed in shallow collections of freshwater like puddles, rice fields, and hoof prints.

**Transmission:**

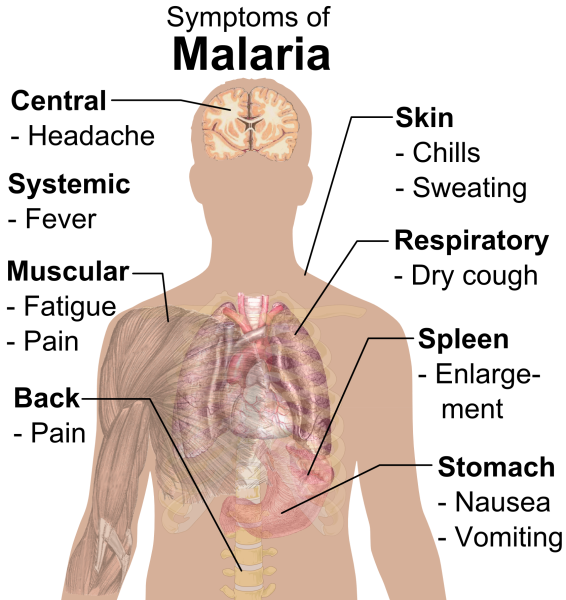
**What Affects the Prevalence of Malaria Transmission?**

The lifespan of the species of mosquito (so that the parasite has time to complete its development inside the mosquito) and whether it prefers to bite humans rather than animals.

Climatic conditions that may affect the number and survival of mosquitoes, such as rainfall patterns, temperature and humidity. In many places, transmission is seasonal, with the peak during and just after the rainy season.

Human immunity – immunity is developed over years of exposure, and while it never gives complete protection, it does reduce the risk that malaria infection will cause severe disease. This contributes to young children being at more risk of death.

**Symptoms:**

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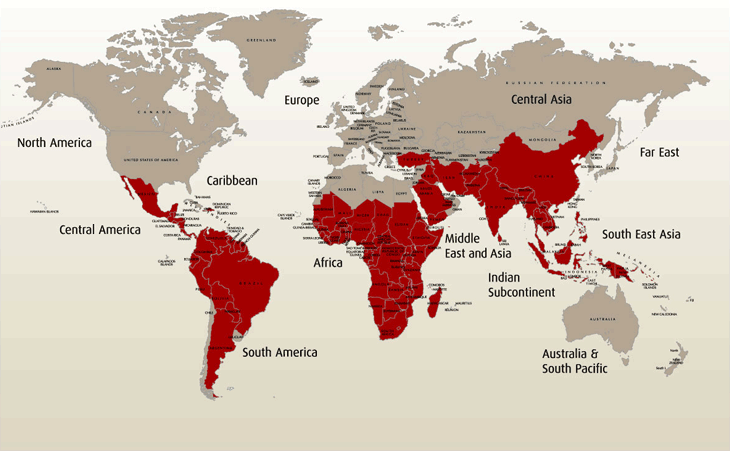
Symptoms of malaria usually appear 10 – 15 days after being bitten. However, depending on the type of parasite, it can take a year for symptoms to show.

Falciparum malaria is the most serious type of malaria. Without treatment, complications develop rapidly, such as breathing problems, fits, liver failure and shock. The most serious complication occurs when the falciparum parasite gets into the brain’s blood vessels. This can lead to a coma and death.

The classic symptom of malaria is [paroxysm](http://en.wikipedia.org/wiki/Paroxysmal_attacks)—a cyclical occurrence of sudden coldness followed by [rigor](http://en.wikipedia.org/w/index.php?title=Rigor_(medicine)&action=edit&redlink=1) and then fever and sweating, occurring every two or three days.

Symptoms of malaria can reappear (recur) after varying symptom-free periods. It is caused by parasites surviving in the blood as a result of inadequate or ineffective treatment.

**Who is at Risk?**

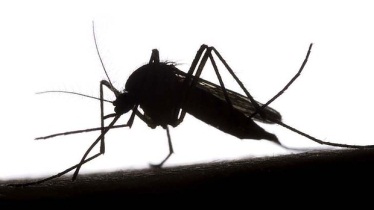
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\* approximately half the world’s population is at risk of malaria

Specific population risk groups include:

* Young children who have not yet developed immunity
* Pregnant women – malaria causes high rates of miscarriage (up to 60%) and maternal death rates of 10 – 50%. Malaria is also a cause of low birth weight, and an estimated 200 000 infants die each year as a result of malaria infection during pregnancy. HIV positive mothers who have malaria have a higher likelihood of passing HIV to their unborn child through the placenta
* People with HIV/AIDS are at increased risk of developing malaria disease when infected

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| **TASKS** | **0** | **1** | **2** | **3** |
| **Defining the Creative Challenge** |  | The student appears to have insufficient understanding about the need for awareness of malaria and bed nets as a method of prevention. The student has “followed instructions” without understanding the purpose of the campaign. | The student appears to have a very good understanding about the need for awareness of malaria and bed nets as a method of prevention. The student understands the basic purpose of the campaign, but does not thoroughly implications for the audience. | The student appears to have an excellent understanding about the need for awareness of malaria and bed nets as a method of prevention. The student has developed insight and understands the purpose driving the need for a campaign that leads to social change in the audience. |
| **Scientific Explanations** |  | The scientific explanations regarding malaria and the use of bed nets as a method of prevention are either irrelevant, in little detail, or are incorrect. | Clear and articulate language has been used to describe the seriousness of malaria and the use of bed nets as a method of prevention. | Concise scientific language has been used to describe the seriousness of malaria and the use of bed nets as a method of prevention. |
| **Creativity** |  | The student has created a campaign which does not engage the audience and is very simplistic in its styling. | The student has created a campaign which includes some interesting touches to make it engaging and interesting for the audience. | The student has created a campaign which is visually interesting and includes elements in the presentation that are engaging, powerful and thought-provoking for the audience. |
| **Appropriate Structure of the Campaign** |  | The student has demonstrated a limited ability to structure the presentation of the campaign. | The student has demonstrated some ability to structure the presentation of the campaign; however it may follow an illogical direction at times. | The campaign shows evidence of careful planning and the presentation has been structured in a logical and coherent manner. |
| **Target Audience** |  | The presentation utilizes few or generally inappropriate strategies for the target audience of the campaign. | The campaign utilizes appropriate persuasive strategies with reference to some elements of text and image, product and target audience. | The campaign employs a range of strategies highly appropriate for the target audience of the advertisement (e.g. choice of language, images and persuasive techniques) |
| **Use of Technology** | The final product has not been completed using technology. | The use of technology facilitates some interaction and interest for the audience. The student has created a presentation in typical ways, but not utilizing the software in a correct manner (e.g. text heavy PowerPoint or Prezi, recitation of notes, simple poster on Word, no interactive features). | The use of technology facilitates adequate interaction and interest for the audience. The student has created a presentation in typical ways (e.g. interesting PowerPoint or Prezi, poster using Publisher, some interactive features, simple movie). | The use of technology facilitates an excellent level of interaction and interest for the audience. The student has created a presentation in a creative and highly effective way (e.g. PowerPoint or Prezi with movies and sound, poster using Phoster or Photoshop, interactive features such as surveys, movie using props, music and drama). |

** ‘Thinking About Malaria’ – ASSESSMENT RUBRIC**

**TOTAL MARK: \_\_\_\_\_\_/18**

**TEACHER COMMENTS:**